

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
GREAT FALLS DIVISION**

ENVIRONMENTAL DEFENSE FUND;
MONTANA ENVIRONMENTAL
INFORMATION CENTER; and CITIZENS
FOR CLEAN ENERGY,

Plaintiffs,

v.

U.S. ENVIRONMENTAL PROTECTION
AGENCY; and ANDREW R. WHEELER, in
his official capacity as Administrator of
the U.S. Environmental Protection
Agency,

Defendants.

Case No.: 4:21-cv-00003-BMM-JTJ

The Honorable Brian Morris,
Chief Judge

DECLARATION OF DR. P. GRACE TEE LEWIS

I, Dr. P. Grace Tee Lewis, declare as follows:

1. I, Dr. P. Grace Tee Lewis, am a Scientist in the Health Program at Environmental Defense Fund (“EDF”) and a voluntary instructor at Baylor College of Medicine, Center for Precision Environmental Health. I am an Environmental Epidemiologist, focusing on the health impacts of criteria pollutants designated under the Clean Air Act and hazardous air pollutants, particularly from an environmental justice angle. I have studied the effects of air pollution exposure on communities in Texas, as well as worked to characterize exposures to volatile organic

compounds, phthalates, and polychlorinated biphenyls in the U.S. I am particularly interested in the way socially- and economically-disadvantaged communities face greater risks from environmental hazards and in using my research to reduce those risks. At EDF, I work to improve air quality in Houston, and my work includes mapping and developing a data-driven tool to identify, prioritize, and visualize risk factors contributing to neighborhood vulnerability from inequities in environment, health, climate, and social stressors.

2. I received my doctorate in epidemiology from the University of Texas Health Science Center at Houston in 2007, a master's degree in toxicology in 1995, and a bachelor's degree in biochemistry from the University of Texas at Austin in 1991.

3. Under the Clean Air Act, the Environmental Protection Agency ("EPA") is required to regularly update the National Ambient Air Quality Standards ("NAAQS") to set standards that adequately protect public health. Part of this obligation includes setting the NAAQS to "accurately reflect" the "latest scientific knowledge." 42 U.S.C. § 7408(a)(2). Much of that knowledge, and especially the best available evidence, involves public health data that includes confidential, private information. EDF and partner organizations frequently submit comments identifying that evidence to assist EPA in complying with its statutory obligations. For instance, EPA Administrator Wheeler recently finalized a rule maintaining an

outdated fine particulate matter (“PM_{2.5}”) annual primary standard of 12 µg/m³. That standard is too low to provide the margin of safety required under the Clean Air Act to protect public health and welfare. While EPA was examining this issue, EDF and others submitted comments recommending an annual primary standard of 8 µg/m³ based on recent scientific evidence discussed in the comments. Even EPA scientists have acknowledged that the standard should be adjusted to 8-10 µg/m³.¹ EDF was especially concerned about this issue because particulate matter pollution leads to asthma attacks, heart attacks, strokes, diabetes, pre-term births, infant low birth weight, and premature deaths. Children, older adults, people with lung and heart disease and low-income individuals are most vulnerable to these health consequences.

4. These are not simply matters of professional concern for me. I live in Houston with my family, where PM_{2.5} levels are high. It is important to me and my family that air quality standards be set at levels that protect our health based on scientific analysis of the health risks of exposure to PM_{2.5}. My family and I engage in outdoor recreational activities, including hiking and biking, which subject us to the effects of poor air quality. We live just down the street from the MKT Hike and Bike trail. My husband is a half-marathon runner, my son is a swimmer, and my family

¹ See EPA, Integrated Sci. Assessment for Particulate Matter (Dec. 2019), <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=347534#tab-3>.

loves to play golf when time permits. In addition, I have immediate family members who are particularly vulnerable to air pollution, including my mother who has congestive heart failure. Moreover, my daughter is 11, and children are particularly vulnerable to health impacts from air pollution.

5. I support community-based organizations by providing scientific expertise for their advocacy efforts and development of environmental justice action plans. I also focus on understanding health risks related to air pollution from the marine and transportation sectors, and strategies to improve regional air quality, monitoring, and public health.

6. I contributed to the PM_{2.5} Advance Path Forward report by the Houston Galveston Area Council, which details voluntary efforts in the Houston Galveston Brazoria region to reduce PM_{2.5} concentrations. This report, which was submitted to EPA, included a brief summary of EDF's health impact assessment showing over 5,000 deaths attributable to PM_{2.5} in the region in 2015, as well as exposure maps showing increased concentrations of PM_{2.5} in West Houston. In collaboration with colleagues, I have presented PM_{2.5} exposure data and maps to EPA, the Texas Commission on Environmental Quality ("TCEQ"), local agencies, and community groups regarding air pollution levels in Houston and resulting health and economic impacts. This work showed the highest concentrations of PM_{2.5} above the current NAAQS standard in areas of Houston where there are no air quality

monitors and which previously had not been of concern to regional air quality planners or scientists. Our work contributed to the decision by TCEQ to locate a PM_{2.5} air monitor in West Houston slated for deployment in December 2020.

7. I understand that EPA has issued a rule, effective January 6, 2021, addressing how EPA may use studies examining “the quantitative relationship between the amount of dose or exposure to a pollutant, contaminant, or substance and an effect” on human health. *See* 86 Fed. Reg. 469, 470, 492 (Jan. 6, 2021) (codified at 40 C.F.R. § 30.2) (the “Rule”). This action establishes new restrictions on the ability of EPA to consider such dose-response data for which underlying data cannot be made “publicly available in a manner sufficient for independent validation.” *Id.* at 492 (codified at 40 C.F.R. § 30.5(c)).

8. Broadly, this Rule jeopardizes scientists’ ability to contribute evidence that supports strong, health-protective standards—and it will have immediate effects. As noted above, there is an urgent need to strengthen the PM_{2.5} NAAQS to fulfill the Clean Air Act’s statutory requirements that standards adequately protect public health. But the new Rule will limit EPA’s ability to give due weight to the best available science, including my work and others’ at EDF, to set standards that protect public health.

9. And the Rule will create a suite of further harms on my work as a scientist—especially my environmental justice work. In this work, I document the

impacts of pollution and other toxic exposures on environmental justice communities—that is, the communities that have historically borne, and continue to bear, a disproportionate share of the harm from weakened standards—and work toward environmental standards that will adequately protect them.

10. I lead our Data to Action community initiatives in Houston which support the advocacy work our environmental justice community based organization (“CBO”) partners conduct. I provide scientific expertise and assist in accessing, analyzing and interpreting data, grant writing, policy initiatives, and facilitating collaborations with academic researchers, non-profits, and local health and government agencies. We worked with four CBOs over the past year to develop environmental justice community action plans to address long standing, historical environmental and health inequities in their communities. We are now implementing these action plans.

11. One CBO is conducting an epidemiological survey to evaluate health outcomes associated with criteria and hazardous air pollutants and exposures from adjacent, historical chemical storage facilities in their community while simultaneously assessing disaster preparedness. I am working with two communities who have established community air monitoring networks to educate residents about air pollution levels in their neighborhood and provide data to initiate investigations by City of Houston and Harris County pollution control agencies with the ultimate

goal of increasing enforcement and improving air quality. We are also assisting in providing fresh foods to communities that are food insecure and food deserts. Furthermore, I work with several CBOs to strengthen engagement with local emergency planning committees with the aim of improving communication of risks to residents living fence line to industrial facilities that emit air pollution in surrounding neighborhoods. Lastly, I am working to reduce blood lead levels among children living in the 5th Ward where lead levels are among the highest in the state and nation. We are assessing the presence of lead service lines in the Houston area and concentrations of lead in drinking water as part of this work. We are working with City officials to assess brownfields for redevelopment in the same neighborhood and assisting resident efforts to understand the scientific and health data associated with a creosote-related cancer cluster. Lastly, I work to quantify and communicate to residents the amount of air pollution released as a result of hurricanes and industrial incidents occurring in the Houston region, State of Texas, and Gulf Coast region.

12. I have found that, in working in environmental justice communities and with CBOs, trust is essential to the success of any study. Earning the trust of the communities in which I work and the individuals who participate in studies is critical—and not easily done. Due to past experiences, environmental justice communities often distrust scientists and government officials. Without establishing

and maintaining relationships and trust in scientists and our work, important studies on the health impacts these communities face would be impossible. In my experience, one of the most important ways to earn and keep such trust is through protecting the privacy of information collected. Making our data public undermines that trust and would destroy our credibility with community organizations. And the concerns aren't simply related to trust—ethical and legal considerations reinforce scientists' obligations to keep confidential information collected as part of our studies.

13. By making it difficult for EPA to consider studies based on non-public data, the Rule creates an untenable conflict between the need for trust and confidentiality and the objective of ensuring that important findings I and fellow scientists at EDF make can inform standard setting and other “pivotal science.” It is important to me to be able to submit the results of our work to EPA and other regulators so that they can consider and act upon our findings, but I cannot do so in a way that would compromise the trust we have worked to develop with communities. This means that, as a result of the Rule, my work will be deprived of the opportunity to have one of its most important impacts—ensuring that federal policymaking is fully responsive to the needs of disadvantaged and historically understudied communities.

14. For example, I have done a significant amount of work in the 5th Ward in Houston, where a cancer cluster was identified by epidemiologists at the Texas

Department of State Health Services Cancer Registry in 2019. For years, the community has been reporting environmental concerns related to creosote from the Union Pacific Railroad site and a high prevalence of adverse health outcomes, including respiratory issues, neurologic conditions, skin ailments, cancers and deaths. Despite repeated requests for investigations by residents, it took a long time and intervention by State Representative Sheila Jackson Lee for the Texas Department of State Health Services to conduct an epidemiological cancer cluster investigation. For the individuals in a cancer registry, there are privacy concerns which will exist for decades, as the registry contains personal, sensitive, identifiable information; indeed, accessing data from a cancer registry is similar to accessing an individual's medical record. The cancer registry and its subjects include children and underscores the critical need to maintain confidentiality and privacy.

15. We are working with impacted residents in the 5th Ward to support their advocacy efforts in addressing their health concerns and assessment of continued exposures to residents living near the site. Residents and our community partners are already very sensitive about living in a community where there is at least one identified cancer cluster. They are wary about sharing their information, and we must ensure that personal and confidential information remains private. At the same time, however, it is important that public health officials, including EPA, be informed about the existence and severity of the cancer clusters so that they can take

steps to address the problem, remediate the site, limit exposure routes, and hold the facility accountable for adverse health outcomes affecting residents. But, as a consequence of the Rule, we will be limited in our ability to advocate for solutions because the Rule restricts EPA's consideration of any studies that—like ours—rely on confidential information that cannot be disclosed.

16. I also conduct meta-analyses which rely on deidentified data which have been collected by other researchers. For example, I am currently conducting a meta-analysis evaluating the association between air pollution and gestational diabetes. I do not have access to the underlying data and, therefore, would be unable to provide the data to EPA, even if it were legally, ethically, and otherwise permissible to do so. Because of this, I am concerned that EPA's ability to consider these analyses would be limited under the Rule.

17. A requirement that the data underlying the work I do in environmental justice communities be publicly available would jeopardize my professional goals when conducting these sorts of studies. My aim in conducting these types of studies, creating maps, and evaluating associations between pollution and health outcomes is ultimately to produce research that can be useful to standard setting. But I am unwilling to destroy the sanctity of our participants' privacy and their trust in scientists and my work. Building and maintaining trust in the communities in which I work is essential to gathering the personal, confidential, and sensitive data which

informs my research and advocacy related to epidemiology. I need to be able to demonstrate that I have the ability to preserve this confidentiality. The upshot is that my work would become less useful, and less personally and professionally meaningful, as a result of the Rule.

18. The Rule wouldn't just affect what I can do with my future work. It will also impact the usefulness of work I have already completed. It will make me question whether to incorporate those studies into advocacy to EPA because EPA would be limited in its ability to rely on them, sharply diminishing the usefulness of my research.

19. This type of work in environmental justice communities underpins much of my, and EDF's, advocacy on these topics. For example, in advocating for a more stringent fine particulate matter standard, we relied on epidemiological studies examining the health impacts associated with a coal-fired power plant that is a significant source of PM_{2.5} emissions in West Houston. Those studies document that the plant's emissions are associated with poor cardiovascular or respiratory outcomes and a heightened risk of hospitalization. Relying on these studies, we have been able to estimate the number of hospitalizations associated with ambient concentrations of PM_{2.5} in the region and to study the effect of different concentrations on the risk of hospitalization, providing concrete scientific evidence

to inform our advocacy that the current standard is not sufficiently protective of public health.

I declare under the penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: January 10, 2021



P. Grace Tee Lewis, PhD